

Appendix 2:

Office Action mailed 1/15/02 as part of prosecution of the grandparent application – ser. no.
09/292,081.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/292,081	04/14/1999	ROBERT WILLIAM COURTENAY	95-0051.02	3066

7590

01/15/2002

CHARLES B BRANTLEY MAIL STOP 525
MICRON TECHNOLOGY INC
8000 S FEDERAL WAY
BOISE, ID 837169632

EXAMINER

BARR, MICHAEL E

ART UNIT	PAPER NUMBER
----------	--------------

1762

12

DATE MAILED: 01/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/292,081	Applicant(s) COURTENAY, ROBERT WILLIAM	
	Examiner Michael Barr	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 8-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 8-12, 14-30 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments and amendments, filed 12/17/01, have been fully considered and reviewed by the examiner. Claims 1 and 8-30 are pending.

The applicant has argued against the Adams reference stating that it does not teach exclusive nozzle movement between points along the diameter of the substrate, in that it teach a spiral nozzle movement. The examiner respectfully disagrees with the applicant interpretation of the nozzle movement of Adams. The Adams reference does not achieve the spiral deposition of the coating material by moving the nozzle in a spiral, but achieves the spiral deposition by spinning the wafer during radial movement of the nozzle as it dispenses the coating material (See Col. 3, lines 4-14; Figs. 2 and 4). Radial movement of the nozzle of Adams is indicative of movement along the radius (linearly) and not a spiral motion. Therefore, it is the examiner's position that the nozzle movement taught by the Adams reference does read on the applicant's claimed movement and thus is maintaining the use of the Adams reference as previously set forth.

The applicant has argued against the combination of Adams with Samuels as the Samuels process, as a whole, contradicts that of Adams. The examiner is not persuaded by the applicant's argument. The examiner is merely relying on the Samuels reference to show the conventionality of using a spray nozzle to applying a resist to a spinning wafer. One of ordinary skill in the art would have been obvious to spray the resist, as the dispensing operation of Adams, with the expectation of providing the desired resist deposition on the spinning wafer, since it is shown by

Art Unit: 1762

Samuels that spraying is a well known and conventional method of applying a resist to a spinning wafer with a moving nozzle. The examiner further relies on Samuels to teach the conventionality moving the nozzle over the entire diameter of the wafer. Furthermore, Adams does suggest that the dispensing of the resist can continue through the center and to or past the edge of the wafer, creating another spiral pattern. Therefore, it would have been obvious to modify the Adams dispensing process by moving the nozzle across the entire diameter, instead of just one radius, with the expectation of achieving the desired resist deposition, since it is shown by Samuels that such nozzle movement characteristic is a well known and conventional method of applying a resist to a spinning wafer with a moving nozzle, and would have been expected to provide the desired spiral deposition pattern.

The applicant has argued against the combination of Adams and Samuels with Konishi reference, as the Konishi process, as a whole, contradicts that of Adams and Samuels. The examiner is not persuaded by the applicant's argument. The examiner is merely relying on the Konishi reference to show the conventionality of having the wafer site extend beyond the chuck. One of ordinary skill in the art would have been to modify Adams and Samuels, such that the wafer site extends beyond the chuck, with the expectation of providing the desired resist deposition results, since it is shown by Konishi et al. that such wafer and chuck configuration is well known and conventional in the wafer spin coating art.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 8-11, 21-22, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Adams.

Adams is applied here for the same reasons as given above and in paragraph 4 of the previous office action.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12, 14-20, 23-24, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams in view of Samuels.

Adams and Samuels are applied here for the same reasons as given above and in paragraph 6 of the previous office action.

Art Unit: 1762

6. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams in view of Samuels and Konishi et al.

Adams, Samuels, and Konishi et al. are applied here for the same reasons as given above and in paragraph 7 of the previous office action.

Allowable Subject Matter

7. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art cited or reviewed by the examiner teaches or fairly suggests the claimed process of coating where the nozzle is moved in no more than one direction along the substrate diameter and that the nozzle movement is stopped prior to reaching the substrate center. Therefore, it is the examiner's position that the limitations of Claim 13 are allowable over the prior art.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 1762

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Barr whose telephone number is 703-305-7919. The examiner can normally be reached on Monday-Thursday 6:00 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in black ink, appearing to read 'Michael Barr', is written over a horizontal line.

Michael Barr
Primary Examiner
Art Unit 1762

MB
January 14, 2002